

AMENDMENTS TO THE CLAIMS

1. (Original) A method of fixing a low-molecular compound on a solid-phase support, comprising the steps of:

(1) bringing a solution containing a low-molecular compound into contact with a solid-phase support having a photoreactive compound bonded to the surface;

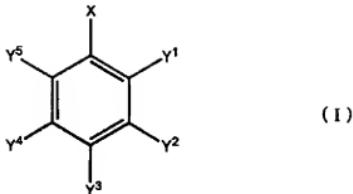
(2) evaporating to dryness the solution containing the low-molecular compound in the state of being in contact with the solid-phase support; and

(3) irradiating the solid-phase support with light to form a covalent bond between the photoreactive compound and the low-molecular compound.

2. (Original) The method of fixing a low-molecular compound on a solid-phase support according to Claim 1, wherein the photoreactive compound is a compound capable of generating a nitrene, a carbene, a radical or a carbon electrophilic agent.

3. (Original) The method of fixing a low-molecular compound on a solid-phase support according to Claim 1, wherein the photoreactive compound is a compound having a diazonium, azide, diazirine or diazo group as a part of the structure.

4. (Original) The method of fixing a low-molecular compound on a solid-phase support according to Claim 1, wherein the photoreactive compound is a compound represented by formula (I):



wherein X denotes $-N_3$, $-C^*(R^1)N=N^*$ (both the “*”s are linked together to form a three-membered ring), $-N_2^+Z^-$, $-C(R^2)=O$, $-CH=CH_2$, $-NO_2$, $-NH_2$, $-C(=O)N_3$, $-Cl$ or $-NH-CH_2-CO-CH=N_2$; R^1 denotes a hydrogen atom, an alkyl group which may have a substituent or an aryl group which may have a substituent; R^2 denotes an aryl group which may have a substituent; Z^- denotes an anion; any one of Y^1 , Y^2 , Y^3 , Y^4 and Y^5 denotes a group which is capable of reacting with a functional group carried on the surface of the solid-phase support to form a covalent bond and the other four members independently to one another denote a hydrogen or halogen atom.

5. (Currently Amended) The method of fixing a low-molecular compound on a solid-phase support according to Claim 1, wherein the solid-phase support is a support for a microarray.

6. (Currently Amended!) A low-molecular microarray which comprises a solid-phase support produced by [[a]] the method as recited in Claim 5.

7. (Original) A method of detecting a substance capable of interacting with a low-molecular compound, comprising the steps of:

- (1) bringing a low-molecular microarray as recited in Claim 6 into contact with a solution which contains a test substance to be detected having a label;
- (2) removing any substance which fails to bind to the low-molecular compound; and
- (3) detecting the label of the test substance.

8. (Withdrawn) A method of identifying an interaction site on a low-molecular compound, comprising the steps of:

- (1) mixing a photoreactive compound with a low-molecular compound capable of interacting with a given substance;
- (2) irradiating the mixture with light to form a covalent bond between the photoreactive compound and the low-molecular compound;
- (3) separating complexes of the photoreactive compound and the low-molecular compound into different groups in accordance with the difference in binding site on the low-molecular compound;
- (4) fixing each of the separated complexes on a solid-phase support;
- (5) bringing the complexes fixed to the solid-phase support into contact with a solution containing the given compound which has a label; and
- (6) among the complexes fixed to the solid-phase support, selecting those complexes from which the label is not detected, to identify the binding site between the low-molecular compound and the photoreactive compound on the complexes.

9. (Previously Presented) The method of fixing a low-molecular compound on a solid-phase support according to Claim 1, wherein the solid-phase support is beads.

10. (Previously Presented) Beads having a low-molecular compound fixed thereon produced by a method as recited in Claim 1.

11. (Original) A method of purifying a substance capable of interacting with a low-molecular compound, comprising the steps of:

- (a) bringing beads as recited in Claim 10 into contact with a solution containing a sample substance; and
- (b) removing any substances which are unbound to the low-molecular compound.

12. (Original) A method of detecting a substance capable of interacting with a low-molecular compound, comprising the steps of:

- (a) bringing beads as recited in Claim 10 into contact with a solution containing a test substance to be detected which has a label;
- (b) removing any substances which fails to bind to the low-molecular compound; and
- (c) detecting the label of the test substance.

13. (New) A method of fixing a low-molecular compound on a solid-phase support, comprising the steps of:

- (1) bringing a solution containing a low-molecular compound into contact with a solid-phase support having a photoreactive compound bonded to the surface;
- (2) evaporating to dryness the solution containing the low-molecular compound in the state of being in contact with the solid-phase support; and
- (3) irradiating the solid-phase support with light to form a covalent bond between the photoreactive compound and the low-molecular compound;

wherein the low-molecular compound is an organic small molecule having primarily a carbon, hydrogen, oxygen, nitrogen or sulfur atom as the main constituent atom.

14. (New) The method of claim 13, wherein the organic small molecule is selected from the group consisting of a primary metabolite of an oligosaccharide, or a polypeptide; a secondary metabolite of a fatty acid, a polyletide, isoprenoid, phenylpropanoid, or alkaroid; a synthetic organic compound of approximately 200 daltons in molecular weight and having an aromatic ring or a heterocyclic ring; and a complex thereof.